



Agenda

- Introductions - All
- Background & Review of TMDL Process – Mary Dail, DEQ
- Technical Approach & TMDL Study Highlights – Jim Kern, Maptech, Inc.
- Implementation Planning – Eileen Rowan, DCR
- Citizen Monitoring – Courtney Wait, National Committee for the New River



Little River Watershed Meeting

March 16, 2011

Mary Dail





Overview

- Water Quality in VA: The Big Picture
- Water quality problems in the Little River Watershed
- TMDLs
- Little River Watershed Project
- Next Steps



Virginia's Water Quality Standards

- Adopted to uphold the Clean Water Act
- Protects the 6 designated uses: aquatic life, wildlife, fishing, shellfish, swimming, and drinking water





Virginia's Water Quality Standards

○ Numeric Criteria

● Specific Limits

- Bacteria standard: 235 colonies/100 ml water
- Dissolved Oxygen: 4 mg/l

○ Narrative Criteria

● General protective statements

- “All state waters shall be free from substances attributable to sewage, industrial waste, or other waste ...”
- “All state waters shall be free from substances ... harmful to human, animal, plant, or aquatic life.”

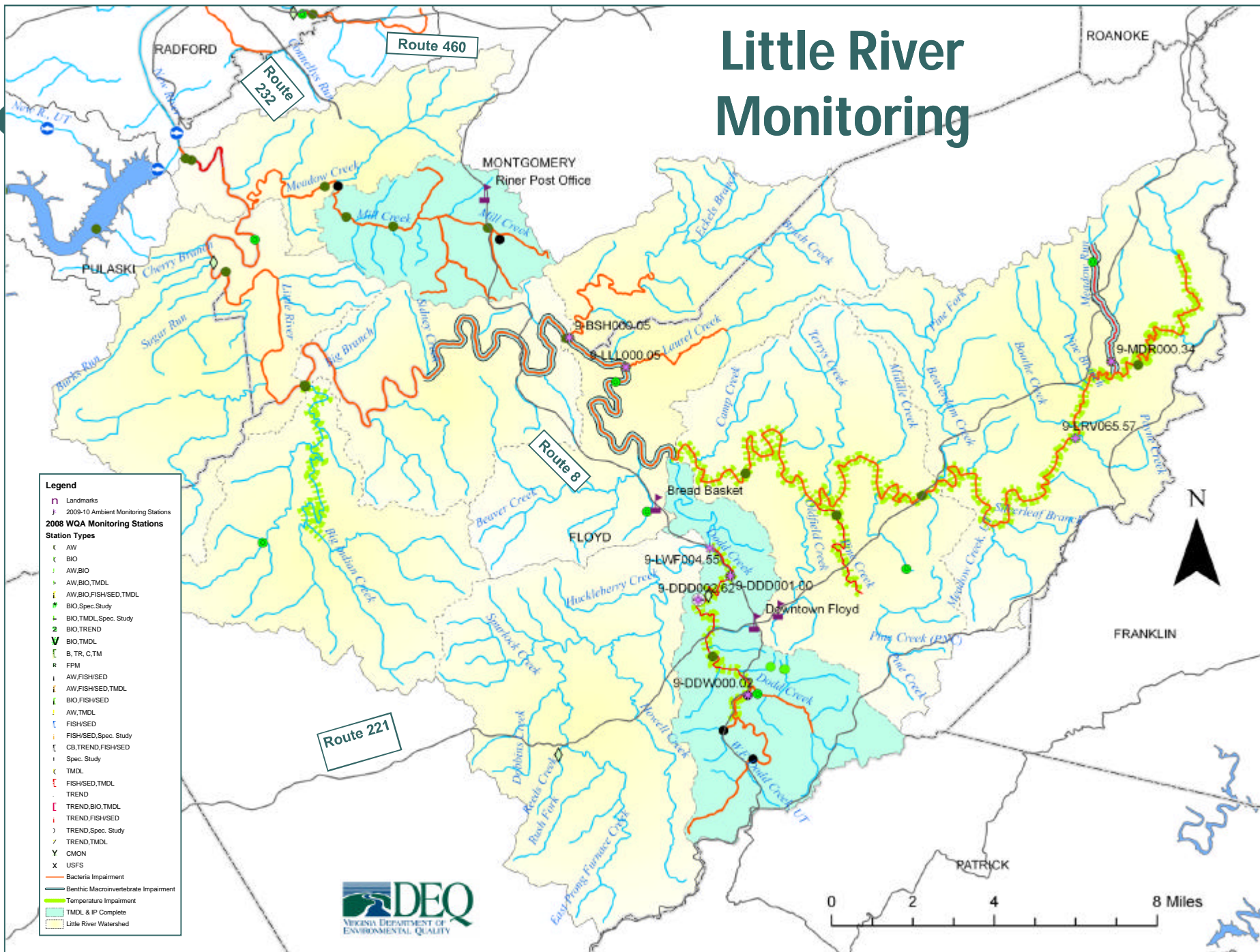
Little River Watershed

- Watershed is approximately 225,000 acres
- Drains into the New River near Radford
- DEQ monitors and assesses water quality throughout the watershed



Little River

Little River Monitoring



Water Quality Impairments in Little River Watershed

- Bacteria
- Temperature
- Benthic Macroinvertebrate Community

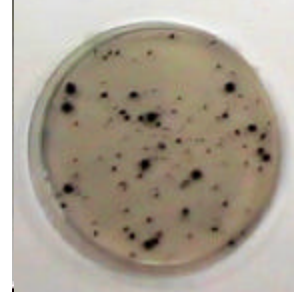


Bacteria Impairments

- Little River
- Meadow Run
- Pine Creek
- Mill Creek
- Brush Creek
- Laurel Creek
- Dodd Creek



Bacteria Impairments (con't)



○ Fecal Bacteria in Little River

- What's Fecal Bacteria?
 - Bacteria associated with feces from warm blooded animals (fecal coliform, *E. coli*)
- Why should we care?
 - Pathogens (including some strains of *E. coli*)
 - Parasites
- Water Quality Standard
 - Swimming & Fishing Use
 - Instantaneous: 235 cfu/100 ml *E. coli*
 - Monthly Geometric Mean: 126 cfu/100 ml *E. coli*



Temperature Impairments

- Little River
- Pine Creek
- Big Indian Creek
- West Fork of Dodd Creek
- Dodd Creek

Temperature Impairments

- Temperature Standards in the Little River Watershed
 - Trout Waters: $\leq 20^{\circ}\text{C}$
 - Stockable Trout Waters: $\leq 21^{\circ}\text{C}$

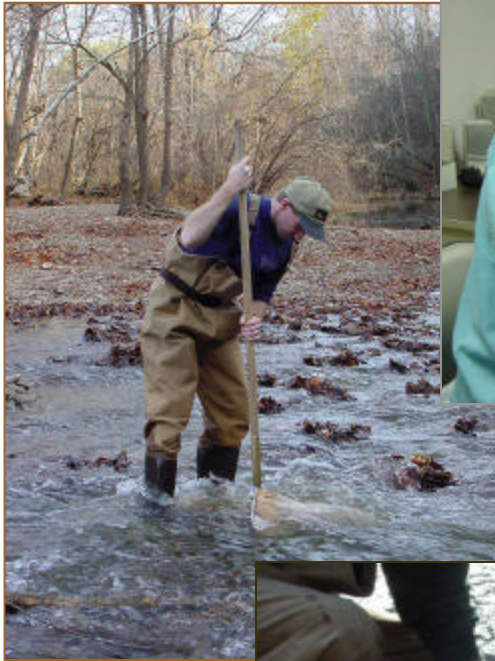


Benthic Macroinvertebrate Community Impairments

- Little River
- Meadow Run



Benthic Macroinvertebrate Community Impairments



- Based on Biological Monitoring
 - Using aquatic insect communities and habitat to gauge the “health” of a stream
- Certain types of insects require specific habitat and water quality conditions to survive
- Insect communities respond to chronic water quality conditions
- Water quality affects abundances and community diversity
- General Standard applies



How Does the State Address Water Quality Impairments?

- Total Maximum Daily Load Study
 - TMDL = Special Study
 - Identifies all sources of pollution
 - Establishes pollution reductions
 - Required by the Clean Water Act & Virginia's Water Quality Monitoring Information and Restoration Act

TMDL- 3 Part Process:

- TMDL development/study
- Implementation Plan (Clean-up Plan) development
- Implement the plan

Public Participation





Little River Watershed Project

- Maptech, Inc. hired to conduct watershed modeling
- Public Participation Opportunities
 - September 28, 2010 Kick-off Meeting, Sinkland Farms
 - March 16, 2011 Meeting, Floyd Library
 - Results of TMDL Study presented
 - Public Comment Period starts today!
 - Implementation/Clean-up Plan Kick off!



Little River Watershed Project

- Showcase project
- TMDL and Implementation Plan developed back-to-back
- Incorporates a large watershed
- Covers multiple water quality impairments
- Includes Mill Creek and Dodd Creek subwatersheds
 - Already have TMDLs and Implementation Plans developed



Next Steps

- Incorporate public input from tonight's meeting
 - Public comment period ends on April 15th
 - Submit Final TMDL Report to EPA
- Form Working Groups for Implementation/Clean-up Plan
 - Steering Committee
 - Agricultural Working Group
 - Residential Working Group
 - Governmental Working Group



Contact Information

DEQ

Mary Dail

TMDL Coordinator

Mary.Dail@deq.virginia.gov

540-562-6715

DCR

Eileen Rowan

Eileen.Rowan@dcr.virginia.gov

MapTech, Inc.

Mohammad Al-Smadi

Project Manager

malsmadi@maptech-inc.com

James Kern

Chief Operations Officer

jkern@maptech-inc.com

(540) 961 - 7864